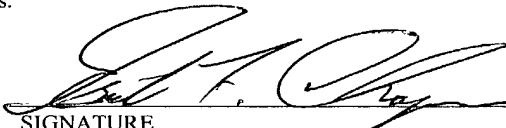


FORM PTO-1390 REV. 2/01T		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTORNEY'S DOCKET NUMBER 05725.1038
<b>TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 U.S.C. 371</b>			U.S. APPLICATION NO. (If known, see 37CFR1.5) <b>10/088636</b>
INTERNATIONAL APPLICATION NO. PCT/FR00/02589	INTERNATIONAL FILING DATE September 18, 2000	PRIORITY DATE CLAIMED September 20, 1999	
TITLE OF INVENTION <b>COMPOSITIONS COMPRISING INSOLUBLE AND DEFORMABLE FLAT ORGANIC PARTICLES</b>			
APPLICANT(S) FOR DO/EO/US <b>Henri SAMAIN</b>			
Applicant(s) herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:			
1.	<input checked="" type="checkbox"/>	This is a <b>FIRST</b> submission of items concerning a filing under 35 U.S.C. 371.	
2.	<input type="checkbox"/>	This is a <b>SECOND</b> or <b>SUBSEQUENT</b> submission of items concerning a filing under 35 U.S.C. 371.	
3.	<input type="checkbox"/>	This is an express request to begin national examination procedures (35 U.S.C. 371(f)). The submission must include items (5), (6), (9) and (21) indicated below.	
4.	<input checked="" type="checkbox"/>	The US has been elected by the expiration of 19 months from the priority date (Article 31).	
5.	<input checked="" type="checkbox"/>	A copy of the International Application as filed (35 U.S.C. 371 (c)(2)).	
	a.	<input type="checkbox"/>	is attached hereto (required only if not communicated by the International Bureau).
	b.	<input checked="" type="checkbox"/>	has been communicated by the International Bureau.
	c.	<input type="checkbox"/>	is not required, as the application was filed with the United States Receiving Office (RO/US).
6.	<input checked="" type="checkbox"/>	An English language translation of the International Application as filed (35 U.S.C. 371 (c)(2)).	
	a.	<input checked="" type="checkbox"/>	is attached hereto.
	b.	<input type="checkbox"/>	has been previously submitted under 35 U.S.C. 154 (d)(4).
7.	<input checked="" type="checkbox"/>	Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371 (c)(3)).	
	a.	<input type="checkbox"/>	are attached hereto (required only if not communicated by the International Bureau).
	b.	<input type="checkbox"/>	have been communicated by the International Bureau.
	c.	<input type="checkbox"/>	have not been made; however, the time limit for making such amendments has NOT expired.
	d.	<input checked="" type="checkbox"/>	have not been made and will not be made.
8.	<input type="checkbox"/>	An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371 (c)(3)).	
9.	<input type="checkbox"/>	An oath or declaration of the inventor(s) (35 U.S.C. 371 (c)(4)).	
10.	<input type="checkbox"/>	An English language translation of the annexes of the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371 (c)(5)).	
Items 11 to 20 below concern document(s) or information included:			
11.	<input type="checkbox"/>	Information Disclosure Statement under 37 CFR 1.97 and 1.98	
12.	<input type="checkbox"/>	An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.	
13.	<input type="checkbox"/>	A <b>FIRST</b> preliminary amendment.	
14.	<input type="checkbox"/>	A <b>SECOND</b> or <b>SUBSEQUENT</b> preliminary amendment.	
15.	<input type="checkbox"/>	A Substitute specification.	
16.	<input type="checkbox"/>	A change of power of attorney and/or address letter.	
17.	<input type="checkbox"/>	A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 35 U.S.C. 1.821-1.825.	
18.	<input type="checkbox"/>	A second copy of the published international application under 35 U.S.C. 154 (d)(4).	
19.	<input type="checkbox"/>	A second copy of the English language translation of the international application 35 U.S.C. 154 (d)(4).	
20.	<input checked="" type="checkbox"/>	Other items or information:	
	a.	<input checked="" type="checkbox"/>	Copy of cover page of International Publication No. WO01/21142 A1.
	b.	<input type="checkbox"/>	Copy of Notification of Missing Requirements.
	c.	<input type="checkbox"/>	

U.S. APPLICATION NO. (if known, see 37CFR 1.5) <b>10/088636</b>		INTERNATIONAL APPLICATION NO. PCT/FR00/02589		ATTORNEY'S DOCKET NUMBER 05725.1038	
21. <input checked="" type="checkbox"/> The following fees are submitted: <b>BASIC NATIONAL FEE (37 CFR 1.492 (a) (1) - (5)):</b>  Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO and International Search Report not prepared by the EPO or JPO ..... <b>\$1040.00</b>  International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO ..... <b>\$890.00</b>  International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search fee (37 CFR 1.445(a)(2)) paid to USPTO ..... <b>\$740.00</b>  International preliminary examination fee (37 CFR 1.482) paid to USPTO but all claims did not satisfy provisions of PCT Article 33(1)-(4) ..... <b>\$710.00</b>  International preliminary examination fee (37 CFR 1.482) paid to USPTO and all claims satisfied provisions of PCT Article 33 (1)-(4) ..... <b>\$100.00</b>  <div style="text-align: right;"><b>ENTER APPROPRIATE BASIC FEE AMOUNT =</b></div>				CALCULATIONS PTO USE ONLY	
Surcharge of \$130.00 for furnishing the oath or declaration later than _____ <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492 (e)).				\$	
CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE		
Total Claims	20	- 20 =	0	x \$18.00	\$
Independent Claims	2	- 3 =	0	x \$84.00	\$
MULTIPLE DEPENDENT CLAIM(S) (if applicable)				+\$280.00	\$280.00
<b>TOTAL OF THE ABOVE CALCULATIONS =</b>				\$1170.00	
<input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27. The fees indicated above are reduced by 1/2.				\$	
<b>SUBTOTAL =</b>				\$1170.00	
Processing fee of \$130.00 for furnishing the English translation later than _____ <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest priority date (37 CFR 1.492(f)).				\$	
<b>TOTAL NATIONAL FEE =</b>				1170.00	
Fee for recording the enclosed assignment (37 CFR 1.21 (h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). <b>\$40.00</b> per property.				\$	
<b>TOTAL FEES ENCLOSED =</b>				\$1170.00	
				Amount to be refunded:	\$
				charged:	\$
a. <input checked="" type="checkbox"/> A check in the amount of \$ <u>1170.00</u> to cover the above fees is enclosed. b. <input type="checkbox"/> Please charge my Deposit Account No. _____ in the amount of \$ _____ to cover the above fees. A duplicate copy of this sheet is enclosed. c. <input checked="" type="checkbox"/> The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. <u>06-0916</u> . A duplicate copy of this sheet is enclosed. d. <input type="checkbox"/> Fees are to be charged to a credit card. <b>WARNING:</b> Information on this form may become public. <b>Credit card</b> <b>information should not be included on this form.</b> Provide credit card information and authorization on PTO-2038.					
NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137 (a) or (b)) must be filed and granted to restore the application to pending status.					
<b>SEND ALL CORRESPONDENCE TO:</b> Finnegan, Henderson, Farabow, Garrett & Dunner, L.L.P. 1300 I Street, N.W. Washington, D.C. 20005-3315					
DATED: March 20, 2002				 SIGNATURE Ernest F. Chapman, Reg. No. 25,961 NAME/REGISTRATION NO.	

WO 01/21142

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PCT/FR00/02589

HAIR COMPOSITIONS COMPRISING INSOLUBLE  
AND DEFORMABLE ORGANIC PLATELETS

A subject-matter of the invention is hair  
5 cosmetic compositions comprising insoluble and  
deformable organic platelets. The invention is also  
targeted at a hair cosmetic process comprising the  
application of these compositions and at the use of  
insoluble and deformable organic platelets in hair  
10 compositions.

Within the meaning of the present invention,  
the term "platelet" is understood to mean flat solid  
particles having the form of thin sheets. The platelets  
according to the invention preferably have smooth  
15 surfaces.

In accordance with the invention, the hair  
compositions can in particular be compositions for  
giving sheen to, for retaining the form of and/or for  
fixing the hair, for making up the hair or for caring  
20 for the hair.

People who have natural hair or hair which  
has already been shaped or has been subjected to  
permanent waving operations or to dyeing operations  
often consider that their hair lacks sheen, that it is  
25 difficult to disentangle and that it is too rough.

In order to solve these problems, provision  
has already been made to apply, to hair, compositions  
comprising fatty substances or hydrophobic substances,

such as silicones. However, although fairly effective in enhancing the sheen of the hair and reducing problems of rough feel and of disentangling, these compositions have disadvantages which limit their  
5 interest. Mention may be made, among the most significant disadvantages, of the fact that these compositions render the hair sticky, which is harmful both visually and with regard to the feel of the hair.

Other solutions have been provided for  
10 enhancing the sheen of the hair. Thus, attempts have been made to treat the hair with reflecting mineral platelets, such as pieces of mica.

However, the effect generally obtained with these mineral platelets is more an artificial  
15 glittering effect on the hair than the desired effect of enhancing the natural sheen. Consequently, such mineral platelets are not entirely satisfactory either in enhancing the quality of the sheen of the hair.

Furthermore, the mineral platelets rapidly  
20 become detached, either by themselves under their own weight or when stroked with a comb. Under these conditions, they fall onto the neck and the shoulders of the person, which, of course, has a detrimental effect on the appearance of the person. Furthermore,  
25 the hair is unpleasant to touch: it is noticed as truly being rough, due to the fact that the platelets are randomly stuck to the individual hairs, without matching their shape.

Attempts have already been made to use very small mineral platelets. In this case, the disadvantages of glittering and of unpleasant feel are certainly decreased but the desired natural sheen  
5 effect is not always obtained.

Attempts have also been made to use small organic platelets. These platelets give the same glittering effects. They are therefore not suitable for the production of the desired natural sheen.

10 The need thus exists to find hair compositions which meet all the above requirements and in particular which confer a natural sheen on the hair without, however, detrimentally affecting its cosmetic properties.

15 The Applicant Company has discovered, surprisingly and unexpectedly, that it is possible to solve this problem by using, in cosmetic formulations, insoluble and deformable organic platelets.

By virtue of these formulations, a  
20 significant improvement in the natural sheen of the hair is obtained, at the same time as an improvement in certain cosmetic effects, such as a texturing effect on the fibres or conditioning effects.

A subject-matter of the invention is a hair  
25 cosmetic composition comprising, in a cosmetically acceptable medium, from 0.01 to 70% by weight of insoluble and deformable organic platelets, characterized in that the said platelets:

- (i) have a size of between 2 and 150  $\mu\text{m}$ ;
- (ii) have a thickness of between 10 nm and 100  $\mu\text{m}$ ;
- (iii) soften at a temperature of between  $-20^{\circ}\text{C}$  and  $100^{\circ}\text{C}$ .

5                   Another subject-matter of the invention is a hair cosmetic process comprising the application of this composition.

                  Yet another subject-matter of the invention is the use of insoluble and deformable organic  
10   platelets in the manufacture of a hair cosmetic composition for the purpose of contributing sheen to the hair.

                  Within the meaning of the present invention, the term "size of the platelets" is understood to mean  
15   the maximum size which it is possible to measure between two opposite points on a platelet.

                  Within the meaning of the present invention, in order to determine whether platelets "soften at a temperature T", they are placed in a glass  
20   crystallizing dish, in a proportion of 1 gram of platelets in a crystallizing dish with a diameter of 80 millimetres. The combination formed by the crystallizing dish and the platelets is brought to the temperature T by placing it in an oven for 2 hours. The  
25   relative humidity level inside the oven is 30%. The combination is removed from the oven and is allowed to return to room temperature. A commercial glass crystallizing dish is used.

The platelets are said to "soften at the temperature T" if, after having been subjected to the above operations, they stick, attach or adhere either to one another or to the walls of the crystallizing dish. On the other hand, the particles "cannot be softened at the temperature T" if, after having been subjected to the above operations, the initial visual physical appearance of at least 50% of these platelets is unmodified and in particular if at least 20% of the platelets remain separated from one another, such as they were before being put in the oven.

In accordance with the invention, the platelets advantageously have a size of between 5 and 50  $\mu\text{m}$  and preferably of between 10 and 30  $\mu\text{m}$ . In addition, their thickness is advantageously between 100 nm and 4  $\mu\text{m}$  and preferably between 200 nm and 2  $\mu\text{m}$ .

Use is made, according to the invention, of platelets which soften at a temperature of between  $-20$  and  $100^{\circ}\text{C}$  and preferably of between  $20$  and  $80^{\circ}\text{C}$ .

The composition according to the invention advantageously comprises between 0.05 and 20% by weight of platelets and preferably between 1 and 4% by weight of platelets.

The platelets employed in the compositions according to the invention can generally be obtained by dissolving and evaporating solvent(s) from a starting composition comprising at least one organic polymer, the glass transition temperature of which is between 20

and 150°C, for a time of between 1 and 10 days, until a solid material is obtained, and then by subsequently milling this material, the glass transition temperature of the organic polymer advantageously being between 20  
5 and 150°C and preferably between 20 and 100°C.

The starting composition from which it is possible to prepare platelets preferably comprises at least one anionic or nonionic polymer in the dispersed form and in particular in the latex form.

10 In order to contribute optimum sheen to the hair, platelets exhibiting a reflectivity, recorded as "r", of between 2 and 75% and preferably between 4 and 50% are advantageously chosen.

According to one embodiment of the  
15 compositions according to the invention, the platelets are formed by a stack of at least two layers of organic materials, each having different refractive indices. In this case, each layer can advantageously have its own refractive index, different from that of the adjacent  
20 layer, or, even more advantageously, all the layers have different refractive indices.

The cosmetically acceptable medium of the compositions in accordance with the invention advantageously comprises at least one organic solvent  
25 chosen from the group consisting of C<sub>1</sub> to C<sub>4</sub> alcohols, C<sub>5</sub> to C<sub>10</sub> alkanes, acetone, methyl ethyl ketone, methyl acetate, butyl acetate, ethyl acetate, dimethoxyethane, diethoxyethane and their mixtures.



In addition, the compositions according to the invention can comprise cosmetic additives chosen from adhesive agents, reducing agents, such as thiols, fatty substances, thickening agents, softeners, antifoaming agents, moisturizing agents, antiperspirants, basifying agents, dyes, pigments, fragrances, preservatives, surfactants, fixing or non-fixing polymers, volatile or non-volatile silicones, in particular anionic silicones, polyols, proteins and vitamins.

The platelets preferably exhibit faces having distinctive physical features such that they stick to the hair during natural drying. In this case, the platelets soften at a temperature of less than or equal to room temperature.

The sticking of the particles to the hair can be temporary, in which case mechanical abrasion makes it possible to detach the particles from the individual hair. It can also be semipermanent, in which case washing with water, with a shampoo or with a solvent makes it possible to detach the particles. It can also be quasipermanent, in which case the particles can remain in practice for at least approximately 1 month on the hair before becoming detached.

In accordance with the invention, it is possible to use not platelets capable of sticking to the hair during natural drying but platelets which only stick to the hair on using an additional external heat

contribution originating, for example, from a hairdresser's hairdryer, a blow-dry or a hand dryer. In this case, the platelets soften at a temperature greater than or equal to room temperature.

5           It is also possible to use platelets which do not stick to the hair, either by natural drying or by an additional external heat contribution, but to cause the platelets to stick to the hair by using a two-stage process: the first consisting in treating the hair with  
10 a preparation lotion and the second with a composition comprising the platelets; the two compositions being chosen, from the viewpoint of their formulation, in order for the platelets to stick to the hair.

          It is also possible to use compositions  
15 combining platelets and a means which ensures that they stick to the hair, such as polymers and in particular polymers with low Tg values (typically below 0°C).

          The glass transition temperatures (Tg) of the polymers studied are measured using the DSC 2920 device  
20 from the company TA Instrument using the differential scanning calorimetry technique. The polymers are conditioned for 48 hours at 24°C and 44% RH before analysis. The measurement is carried out in a sealed crucible with a rise in temperature of 10°C/min.

25           Insofar as the platelets used in the compositions in accordance with the invention soften, they entirely match the cylindrical shape of the individual hairs and are generally positioned in the

lengthwise direction of the individual hairs, possibly forming a cylindrical portion. This taking place, the appearance of the individual hair remains natural and smooth, since the platelets fully follow the shape of the individual hair and the platelet by itself naturally contributes to increasing the sheen. Consequently, the sheen is improved, the feel is more pleasant and the disentangling is facilitated.

It is possible to evaluate the sheen conferred on the hair by the compositions in accordance with the invention by means of a sensory test. To do this, locks of European brown hair are used and a composition in accordance with the present invention is applied to some of them and a composition in accordance with the prior art, recognized as providing sheen, is applied to others.

A lock is positioned on a flat support. It is illuminated by a stationary halogen lamp. An observer is placed in the mirror position, in the plane of incidence of the light (specular reflection). He grades the sheen between 0 (dull) and 50 (mirror effect).

The lock is subsequently inclined with respect to its starting position, the observer being stationary. Five angles of inclination of the lock are thus chosen, for which angles, on each occasion, the observer grades the sheen between 0 and 50. The mean of the 5 grades is taken, which gives the result of the sheen for a lock.

It is observed that the results obtained for the locks treated with the composition in accordance with the invention are greater than those of the locks treated with the compositions in accordance with the prior art and, furthermore, that the grades obtained for each angle of inclination of the lock treated with the compositions in accordance with the invention are substantially similar, whereas there is a large difference between each of the grades for the locks treated in accordance with the prior art.

As a result of the specific properties of the platelets employed in the compositions in accordance with the invention, it is henceforth possible to obtain no longer a perception of glittering of the hair but a perception of sheen. This is because, in contrast to the compositions of the prior art comprising rigid platelets which act as small mirrors, reflecting the light in a single direction, the compositions according to the invention provide a perception of sheen, whatever the angle of observation, owing to the fact that the platelets virtually match the curve of the individual hair.

Furthermore, the compositions in accordance with the invention exhibit a sheen which, from a quantitative viewpoint, is markedly greater than that obtained with the compositions of the prior art comprising compounds of the silicone type.

Consequently, the compositions in accordance with the invention provide the locks with a sheen which is superior to that conferred by the compositions in accordance with the prior art. In addition, the  
5 compositions in accordance with the invention give rise, not to glittering, as is the case for the compositions of the prior art, but a natural sheen, which is evidenced by the virtually similar sheen grades obtained for the various angles of inclination  
10 of the lock.

The size of the particles is evaluated by optical microscopy. To do this, the particles are spread over a microscope slide. The size of 40 particles is measured by recording the greatest  
15 distance between two edges of each particles. The mean of these distances is taken.

According to the invention, anionic polymers, cationic polymers, amphoteric polymers and nonionic polymers can be used for the preparation of the  
20 platelets. Nonionic polymers are preferred. In particular the polymers formed by polymerization of esters of acrylic acid, of methacrylic acid or of crotonic acid.

The compositions according to the invention  
25 can be used for rinse-out or leave-in applications.

According to the invention, the compositions have the usual forms used in cosmetics, such as, non-exhaustively, care creams, conditioners, shampoos,

lotions, foams, gels or sprays. They are preferably packaged as a lotion.

It is also possible to prepare colouring compositions by introducing dyes or pigments into the  
5 compositions according to the invention. To do this, the dyes and pigments are used according to the dyeing results desired.

It is also possible to introduce dyes or pigments directly, at least into a portion of the  
10 platelets. It is also possible to prepare compositions according to the invention comprising at least some platelets which provide, because of their physical properties, iridescent or coloured effects. In the last two cases, the particles must retain, in addition to  
15 the optical effects described, all the properties described previously.

The invention may be better understood with the help of the nonlimiting example which follows and which constitutes an advantageous embodiment of the  
20 compositions in accordance with the invention.

The percentages are relative percentages by weight. A.M. means active material.

#### EXAMPLE:

25 On the one hand, a first formulation "A" in accordance with the prior art, based on the phenylated silicone Mirasil DPMP® sold by Rhône-Poulenc, is prepared.

Formulation A (prior art):

Mirasil DPDM®		0.3%
Water	q.s.	100%

5           On the other hand, a formulation "B" in accordance with the invention, based on insoluble organic platelets, is prepared.

          The platelets are obtained by the procedure described below:

10           The following composition is prepared:

Mowilith LDM 6070 <sup>(1)</sup>		0.1% (AM)
Water	q.s.	100%

15   <sup>(1)</sup>Styrene/butyl acrylate latex with a glass transition temperature of between 20 and 25°C, sold by Hoechst.

          100 g of this composition are poured into a 200 cm<sup>2</sup> Teflon mould. The composition is allowed to dry at normal temperature for 5 days. The film formed is  
20 then scraped, if necessary by milling it, until platelets with a mean size of 10 µm are obtained, the size range being between 2 and 30 µm.

          It is confirmed that the platelets produced soften at 100°C.

The formulation B is prepared as follows:

Formulation B (invention):

	Platelets (see above preparation)	0.3%
5	Water	q.s. 100%

The two formulations are applied in a proportion of 1 gram per 5 grams of hair to locks of natural chestnut hair. The locks are then dried.

10 Finally, the cosmetic properties of the locks are evaluated by a sensory test with 8 testers.

The locks treated with the formulation A in accordance with the prior art are shiny but their feel is greasy and not very pleasant. The locks treated with  
15 the formulation B in accordance with the invention are shiny and their feel is markedly more natural and more pleasant than that of the locks treated with the composition A. In addition, the sheen obtained with the lock treated with the composition B is more natural  
20 than that [lacuna] treated with the composition A in accordance with the prior art.



CLAIMS

1. Hair cosmetic composition comprising, in  
a cosmetically acceptable medium, from 0.01 to 70% by  
5 weight of insoluble and deformable organic platelets,  
characterized in that the said platelets:

- (i) have a size of between 2 and 150  $\mu\text{m}$ ;
- (ii) have a thickness of between 10 nm and 100  $\mu\text{m}$ ;
- (iii) soften at a temperature of between  $-20^{\circ}\text{C}$  and  
10  $100^{\circ}\text{C}$ .

2. Composition according to Claim 1,  
characterized in that the platelets have a size of  
between 5 and 50  $\mu\text{m}$  and preferably of between 10 and  
30  $\mu\text{m}$ .

15 3. Composition according to either one of  
the preceding claims, characterized in that the  
platelets have a thickness of between 100 nm and 4  $\mu\text{m}$   
and preferably of between 200 nm and 2  $\mu\text{m}$ .

4. Composition according to any one of the  
20 preceding claims, characterized in that the platelets  
soften at a temperature of between 20 and  $80^{\circ}\text{C}$ .

5. Composition according to any one of the  
preceding claims, characterized in that the composition  
comprises between 0.05 and 20% by weight of platelets  
25 and preferably between 1 and 4% by weight of platelets.

6. Composition according to any one of the  
preceding claims, characterized in that the platelets  
can be obtained by dissolving and evaporating

solvent(s), at a temperature of between 20 and 150°C, from a starting composition comprising at least one organic polymer, the glass transition temperature of which is between 20 and 150°C, for a time of between 1  
5 and 10 days, until a solid material is obtained, and then by subsequently milling this material.

7. Composition according to Claim 6, characterized in that the glass transition temperature is between 20 and 150°C and preferably between 20 and  
10 100°C.

8. Composition according to Claim 6, characterized in that the starting composition comprises at least one anionic or nonionic polymer in the dispersed form and in particular in the latex form.

15 9. Composition according to any one of the preceding claims, characterized in that the platelets exhibit a reflectivity of between 2 and 75% and preferably between 4 and 50%.

10. Composition according to any one of the  
20 preceding claims, characterized in that the platelets are formed by a stack of at least two layers of organic materials, each having different refractive indices.

11. Composition according to Claim 10, characterized in that each layer has its own refractive  
25 index, different from that of the adjacent layer.

12. Composition according to either one of Claims 10 and 11, characterized in that all the layers have different refractive indices.

13. Composition according to any one of the preceding claims, characterized in that the cosmetically acceptable medium comprises at least one organic solvent chosen from the group consisting of  
5 C<sub>1</sub> to C<sub>4</sub> alcohols, C<sub>5</sub> to C<sub>10</sub> alkanes, acetone, methyl ethyl ketone, methyl acetate, butyl acetate, ethyl acetate, dimethoxyethane, diethoxyethane and their mixtures.

14. Composition according to any one of the  
10 preceding claims, characterized in that it additionally comprises cosmetic additives chosen from adhesive agents, reducing agents, such as thiols, fatty substances, thickening agents, softeners, antifoaming agents, moisturizing agents, antiperspirants, basifying  
15 agents, dyes, pigments, fragrances, preservatives, surfactants, fixing or non-fixing polymers, volatile or non-volatile silicones, in particular anionic silicones, polyols, proteins and vitamins.

15. Composition according to any one of the  
20 preceding claims, characterized in that it is packaged in an aerosol device.

16. Hair cosmetic process, characterized in that it comprises the application of a hair cosmetic composition according to any one of Claims 1 to 15.

25 17. Use of insoluble and deformable organic platelets:

(i) having a size of between 2 and 150  $\mu\text{m}$ ;

(ii) having a thickness of between 10 nm and 100  $\mu\text{m}$ ;  
and

(iii) soften at a temperature of between  $-20$  and  $100^{\circ}\text{C}$ ,  
in the manufacture of a hair cosmetic composition, for  
5 the purpose of contributing sheen to the hair.

18. Use according to Claim 17, characterized  
in that the platelets exhibit a reflectivity of between  
2 and 75%.

19. Use of a composition according to any  
10 one of Claims 1 to 15 as composition for giving sheen  
to, for retaining the form of and/or for fixing the  
hairstyle or for caring for or for making up the hair.

(12) DEMANDE INTERNATIONALE PUBLIÉE EN VERTU DU TRAITÉ DE COOPÉRATION  
EN MATIÈRE DE BREVETS (PCT)(19) Organisation Mondiale de la Propriété  
Intellectuelle  
Bureau international(43) Date de la publication internationale  
29 mars 2001 (29.03.2001)(10) Numéro de publication internationale  
WO 01/21142 A1

PCT

(51) Classification internationale des brevets<sup>7</sup>: A61K 7/06,  
7/00(21) Numéro de la demande internationale:  
PCT/FR00/02589(22) Date de dépôt international:  
18 septembre 2000 (18.09.2000)

(25) Langue de dépôt: français

(26) Langue de publication: français

(30) Données relatives à la priorité:  
99/11748 20 septembre 1999 (20.09.1999) FR(71) Déposant (pour tous les États désignés sauf US):  
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BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE,  
DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU,  
ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS,  
LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO,  
NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR,  
TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.(84) États désignés (régional): brevet ARIPO (GH, GM, KE,  
LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), brevet eurasien  
(AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), brevet européen  
(AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU,  
MC, NL, PT, SE), brevet OAPI (BF, BJ, CF, CG, CI, CM,  
GA, GN, GW, ML, MR, NE, SN, TD, TG).

Publiée:

— Avec rapport de recherche internationale.

*En ce qui concerne les codes à deux lettres et autres abrévia-  
tions, se référer aux "Notes explicatives relatives aux codes et  
abréviations" figurant au début de chaque numéro ordinaire de  
la Gazette du PCT.*

(54) Title: COMPOSITIONS COMPRISING INSOLUBLE AND DEFORMABLE FLAT ORGANIC PARTICLES

(54) Titre: COMPOSITIONS CAPILLAIRES COMPRENANT DES PLAQUETTES ORGANIQUES, INSOLUBLES ET DE-  
FORMABLES(57) Abstract: The invention concerns a cosmetic hair composition comprising, in a cosmetically acceptable medium, 0.01 to 70  
wt. % of insoluble and deformable flat organic particles, characterised in that said flat particles: (i) have a size ranging between 2 and  
150 µm; (ii) have a thickness ranging between 10 and 100 µm; (iii) become soft at a temperature ranging between -20 and 100 °C.(57) Abrégé: L'invention concerne une composition cosmétique capillaire comprenant, dans un milieu cosmétiquement acceptable,  
de 0,01 à 70 % en poids de plaquettes organiques, insolubles et déformables, caractérisée par le fait que lesdites plaquettes: (i)  
présentent une taille comprise entre 2 et 150 µm; (ii) présente une épaisseur comprise entre 10 nm et 100 µm; (iii) se ramollissent à  
une température comprise entre -20 et 100 °C.

WO 01/21142 A1

## Declaration and Power of Attorney for Patent Application

### Déclaration et Pouvoir pour Demand de Brevet

#### French Language Declaration

En tant que l'inventeur nommé ci-après, je déclare par le présent acte que:

Mon domicile, mon adresse postale et ma nationalité sont ceux figurant ci-dessous à côté de mon nom.

Je crois être le premier inventeur original et unique (si un seul nom est mentionné ci-dessous), ou l'un des premiers co-inventeurs originaux (si plusieurs noms sont mentionnés ci-dessous) de l'objet revendiqué, pour lequel une demande de brevet a été déposée concernant l'invention intitulée

COMPOSITIONS CAPILLAIRES COMPRENANT DES  
PLAQUETTES ORGANIQUES, INSOLUBLES ET DÉFORMABLES

et dont la description est fournie ci-joint à moins que la case suivante n'ait été cochée:

- ☒ a été déposée le \_\_\_\_\_  
sous le numéro de demande des Etats-Unis ou le  
numéro de demande international PCT  
\_\_\_\_\_ et modifiée  
\_\_\_\_\_ (les cas échéant).

Je déclare par le présent acte avoir passé en revue et compris le contenu de la description ci-dessus, revendications comprises, telles que modifiées par toute modification dont il aura été fait référence ci-dessus.

Je reconnais devoir divulguer toute information pertinente à la brevetabilité, comme défini dans le Titre 37, § 1.56 du Code fédéral des réglementations.

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

COMPOSITIONS COMPRISING INSOLUBLE AND  
DEFORMABLE FLAT ORGANIC PARTICLES

the specification of which is attached hereto unless the following box is checked:

- ☒ was filed on March 20, 2002 as United States  
Application Number or PCT International Application  
Number PCT/FR00/02589 filed on September 18, 2000  
and was amended on \_\_\_\_\_ (if  
applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above

I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56.

### French Language Declaration

Je revendique par le présent acte avoir la priorité étrangère, en vertu du Titre 35, § 119(a)-(d) ou § 365(b) du Code des Etats-Unis, sur toute demande étrangère de brevet ou certificat d'inventeur ou, en vertu du Titre 35, § 365(a) du même Code, sur toute demande internationale PCT désignant au moins un pays autre que les Etats-Unis et figurant ci-dessous et, en cochant la case, j'ai aussi indiqué ci-dessous toute demande étrangère de brevet, tout certificat d'inventeur ou toute demande internationale PCT ayant une date de dépôt précédant celle de la demande à propos de laquelle une priorité est revendiquée.

Prior foreign application(s)  
Demande(s) de brevet antérieure(s)

99/11748	France
(Number)	(Country)
(Numéro)	(Pays)
<hr/>	
(Number)	(Country)
(Numéro)	(Pays)

Je revendique par le présent acte tout bénéfice, en vertu du Titre 35, § 119(e) du Code des Etats-Unis, de toute demande de brevet provisoire effectuée aux Etats-Unis et figurant ci-dessous.

(Application No.)	(Filing Date)
(N° de demande)	(Date de dépôt)
<hr/>	
(Application No.)	(Filing Date)
(N° de demande)	(Date de dépôt)

Je revendique par le présent acte tout bénéfice, en vertu du Titre 35, § 120 du Code des Etats-Unis, de toute demande de brevet effectuée aux Etats-Unis, ou en vertu du Titre 35, § 365(c) du même Code, de toute demande internationale PCT désignant les Etats-Unis et figurant ci-dessous et, dans la mesure où l'objet de chacune des revendications de cette demande de brevet n'est pas divulgué dans la demande antérieure américaine ou internationale PCT, en vertu des dispositions du premier paragraphe du Titre 35, § 112 du Code des Etats-Unis, je reconnais devoir divulguer toute information pertinente à la brevetabilité, comme défini dans le Titre 37, § 1.56 du Code fédéral des réglementations, dont laquelle est devenue disponible entre la date de dépôt de la demande antérieure, et la date de dépôt de la demande nationale ou internationale PCT de la présente demande:

(Application No.)	(Filing Date)
(N° de demande)	(Date de dépôt)
<hr/>	
(Application No.)	(Filing Date)
(N° de demande)	(Date de dépôt)

Je déclare par le présent acte que toute déclaration ci-incluse est, à ma connaissance, véridique et que toute déclaration formulée à partir de renseignements ou de suppositions est tenue pour véridique; et de plus, que toutes ces déclarations ont été formulées en sachant que toute fausse déclaration volontaire ou son équivalent est passible d'une amende ou d'une incarcération, ou des deux, en vertu de la Section 1001 du Titre 18 du Code des Etats-Unis, et que de telles déclarations volontairement fausses risquent de compromettre la validité de la demande de brevet ou du brevet délivré à partir de celle-ci.

I hereby claim foreign priority under Title 35, United States Code, § 119(a)-(d) or § 365(b) of any foreign application(s) for patent or inventor's certificate, or § 365(a) of any PCT International Application which designated at least one country other than the United States, listed below, and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or PCT International application having a filing date before that of the application on which priority is claimed.

Priority Claimed  
Droit de priorité revendiqué

20 September 1999	<input checked="" type="checkbox"/>
(Day/Month/Year Filed)	
(Jour/Mois/Anné de dépôt)	
<hr/>	
(Day/Month/Year Filed)	<input type="checkbox"/>
(Jour/Mois/Anné de dépôt)	

I hereby claim the benefit under Title 35, United States Code, § 119(e) of any United States provisional application(s) listed below.

I hereby claim the benefit under Title 35, United States Code, § 120 of any United States application(s), or § 365(c) of any PCT International Application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International Application in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose any or all information which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application.

(Status) (patented, pending, abandoned)  
(Status) (breveté, en cours d'examen, abandonné)

(Status) (patented, pending, abandoned)  
(Status) (breveté, en cours d'examen, abandonné)

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

### French Language Declaration

POUVOIRS: En tant que l'inventeur cité, je désigne par la présente l'(les) avocat(s) et/ou agent(s) suivant(s) pour qu'ils poursuive(nt) la procédure de cette demande de brevet et traite(nt) toute affaire s'y rapportant avec L'Office des brevets et des marques: (mentionner le nom et le numéro d'enregistrement).

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this patent application and transact all business in the Patent and Trademark Office connected therewith: (list name and registration number):

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